

NEW *NOTIPHILA* (DIPTERA: EPHYDRIDAE) FROM THE  
OKEFENOKEE SWAMP, GEORGIA<sup>1</sup>

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*Abstract.*—Two previously unknown species of *Notiphila* (*Notiphila*) Fallén, *Notiphila mathisi* n. sp. and *Notiphila theonae* n. sp., are described from the Okefenokee Swamp, Georgia.

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Recent collecting in the Okefenokee Swamp (Charlton County, Georgia) has resulted in the discovery of two undescribed species of *Notiphila* (*Notiphila*) Fallén, *Notiphila mathisi* n. sp. and *Notiphila theonae* n. sp. Both species are members of the *adjusta* group as defined by Mathis (1979: 19). The site of collection was an emergent-macrophyte prairie located about 6 km west of Billy's Island. Specimens were captured as they rested upon the foliage of *Nuphar luteum macrophyllum* (Small) Beal.

In the descriptions below, numerical characters follow Mathis (1979: 6-10) and are based upon male specimens. Unless otherwise noted, other character states utilized in the species diagnoses are based upon examinations of both male and female specimens.

*Notiphila* (*Notiphila*) *mathisi*, NEW SPECIES

Figs. 1-2, 5

Moderately small shore flies, length 2.93-3.12 mm (N = 4); ground color blue-gray, lightly dusted with brown dorsally; extreme dorsolateral margins of mesonotum bordered by a pair of distinct dark brown stripes.

Head: Eye ratio of 1:0.63-1:0.70; eye-to-cheek ratio 1:0.21-1:0.27; postfrons ratio 1:1.14-1:1.42; prefrons ratio 1:0.68-1:0.87. Median triangular area and lateral margins of frons gray, generally concolorous; median area of frons with greenish pollinosity. Paraverticlar bristles medium in size, noticeably more robust than the postocellar setae. One pair of fine proclinate, fronto-orbital setae present. First and second antennal segments brown, third segment orange proximally becoming brown distally; arista with 10-12 dorsal branches. Face lightly pruinose, yellow near antennae bases becoming silver toward oral margin; facial setae fine, 3-4; genae gray; genal bristle stronger than paraverticlar bristle; maxillary palps orange.

*Thorax:* Mesonotum light brown, lateral margins with distinct dark brown stripes extending posteriad from an area anterior of the presutural bristle, across

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the extreme dorsal region of the notopleuron, terminating near the base of the supra-alar bristle. Pleural regions generally blue-gray; anapisternum with a transverse, irregularly ovoid, dark brown region situated dorso-centrally on pleurite. Lateral margins of scutellum nearly black with pigmentation extending anteriorly onto the mesonotum to form short stripes which terminate near the bases of the intra-alar bristles. Femora light gray, yellow apically; tibia and tarsi yellow; setal fascicle of hind basitarsus yellow; mesothoracic tibia with 3 dorsal extensor bristles; mesothoracic femora and tibia of males with comblike row of setae along postero-ventral margins.

*Abdomen:* Abdominal ratio 1:0.64–1:0.78; tergum V/IV ratio 1:1.11–1:1.57; tergum V ratio 1:0.37–1:0.45. Ground color blue-gray with dark brown, geminate, triangulate fascia on segments III–V (Fig. 2). Male genitalia: Ventral epandrial processes narrow, forming lateral boundaries of an extensive, truncate emargination (Fig. 5); basiphallus heavily sclerotized, recurved, narrowing apically (Fig. 1, AED); hypandrial process considerably longer than wide with apical  $\frac{1}{2}$  covered with short, fine, spinules (Fig. 1, HYP PR); hypandrial receptacle reduced to 2 elongate, sclerotized strips (Fig. 1, HYP REC).

Type material.—Holotype  $\delta$ : Georgia, Charlton County, Okefenokee Swamp, 6 km W of Billy's Island, 26 September 1982, ADH, deposited in the United States National Museum; Paratypes, 3  $\delta$ , 10  $\text{♀}$ , same data as Holotype, deposited in USNM (2  $\delta$ , 9  $\text{♀}$ ) and University of Georgia (1  $\delta$ , 1  $\text{♀}$ ).

Etymology.—The genitive *mathisi* is given in honor of Wayne N. Mathis in recognition of his outstanding (1979) revision of the North American *Notiphila*.

Remarks.—In the key to the North American species of *Notiphila* (*Notiphila*) given in Mathis (1979: 17–19), *N. mathisi* will key to couplet 6 which includes *N. taenia* Mathis and *N. bella* Loew. Although closely resembling these species externally, *N. mathisi* can be easily distinguished by its distinctive basiphallus and epandrium.

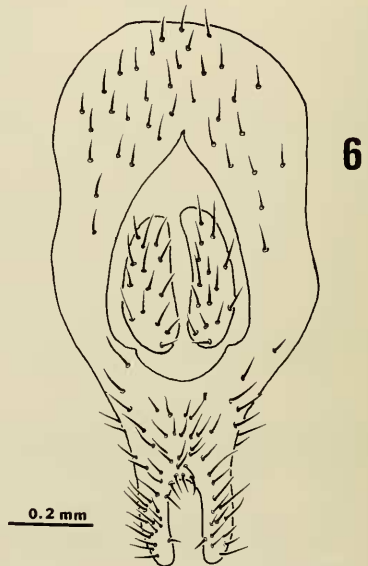
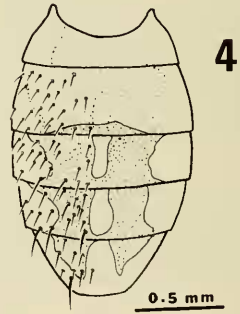
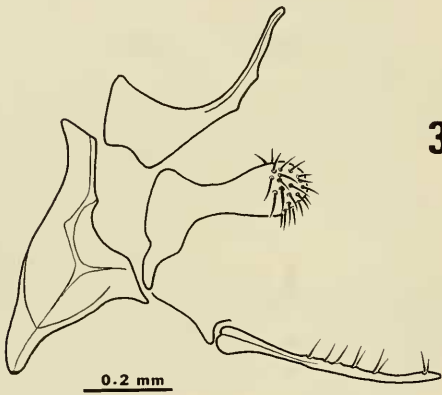
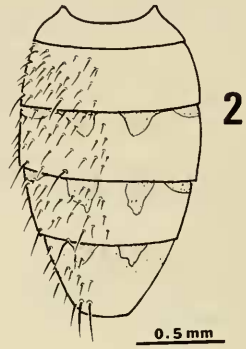
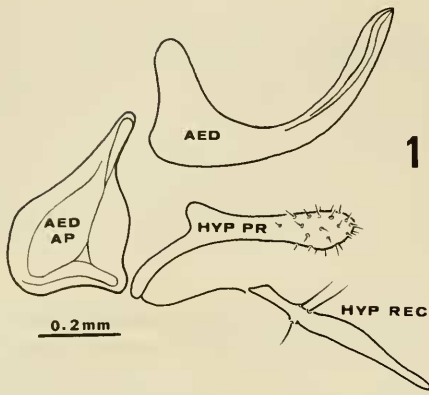
### *Notiphila (Notiphila) theonae*, NEW SPECIES

Figs. 3–4, 6

Medium-sized shore flies, length 3.12–3.25 mm (N = 2); ground color blue-gray lightly dusted with brown dorsally; thorax immaculate.

*Head:* Eye ratio 1:0.71–1:0.75; eye-to-cheek ratio 1:0.20–1:0.24; postfrons ratio 1:1.15; prefrons ratio 1:0.50–1:0.52. Median triangular area light gray, contrasting with the dark brown lateral margins of frons; median area of frons concolorous with the preceding. Paravertical bristles fine, equal to the postocellar setae. One pair of fine proclinate, fronto-orbital setae present. First and second antennal segments brown, third segment orange proximally, becoming light brown distally; arista with 5–8 dorsal branches. Face lightly pruinose, silver; facial setae fine, 4; genae gray, genal bristle moderate in size, about  $2 \times$  the length of the paravertical bristle; maxillary palps pale yellow.

*Thorax:* Mesonotum, immaculate with light brown pollinosity. Pleural sclerites, immaculate, blue-gray. Scutellum with lateral margins appearing dark brown when viewed from a postero-oblique angle. Femora light gray, yellow apically; tibia and tarsi yellow; setal fascicle of hind basitarsus yellow; mesothoracic tibia with 3 dorsal extensor bristles; mesothoracic femora and tibia of males with comblike row of setae along postero-ventral margins.



*Abdomen:* Abdominal ratio 1:0.63–1:0.66; tergum V/IV ratio 1:1.10; tergum V ratio 1:0.48–1:0.50. Ground color blue-gray with brown, parallel, continuous fascia extending from the posterior margin of segment II to segment V (Fig. 4). Male genitalia: Ventral epandrial processes forming lateral boundaries of a narrow U-shaped emargination (Fig. 6); basiphallus heavily sclerotized, strongly recurved, becoming markedly narrow apically (Fig. 3); hypandrium triangular in lateral view, bearing 2 stout setae at apex; hypandrial process longer than wide with apical  $\frac{1}{3}$  covered with relatively long, stout, spines (Fig. 3); hypandrial receptacle reduced to 2 elongate, sclerotized strips (Fig. 3).

Type material.—Holotype  $\delta$ : Georgia, Charlton County, Okefenokee Swamp, 6 km W of Billy's Island, ADH, deposited in the United States National Museum; Paratypes, 1 male, 6 females, same data as Holotype, deposited in USNM (5 females) and University of Georgia (1  $\delta$ , 1  $\text{♀}$ ).

Etymology.—The genitive *theonae* is given in memory of Theona S. C. Huryn; one who enthusiastically supported my early interests in entomology.

Remarks.—The setation of the hypandrial process and the structure of the basiphallus renders *N. theonae* distinct from all other members of the subgenus *Notiphila*. In the key to the North American species of *Notiphila* (*Notiphila*) provided by Mathis (1979: 17–19), *N. mathisi* will key to couplet 6 where it can be readily distinguished from *N. taenia* and *N. bella* by the lack of thoracic stripes.

#### LITERATURE CITED

- Mathis, W. N. 1979. Studies of Notiphilinae (Diptera: Ephydriidae), I: Revision of the Nearctic species of *Notiphila* Fallén, excluding the *caudata* group. *Smithson. Contrib. Zool.* 287: 1–111 + iv.

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Figs. 1–6. 1, *Notiphila mathisi* n. sp., internal male genitalia, lateral (AED = aedeagus, AED AP = aedeagal apodeme, HYP PR = hypandrial process, HYP REC = hypandrial receptacle). 2, *N. mathisi*, male abdomen, dorsal. 3, *N. theonae* n. sp., internal male genitalia, lateral. 4, *N. theonae*, male abdomen, dorsal. 5, *N. mathisi*, epandrium, cerci and epandrial processes. 6, *N. theonae*, epandrium, cerci and epandrial processes.